

WHAT IS CLAIMED IS:

1. A rotary electric machine comprising:
 - a stator core having a three-phase armature winding and a field coil;
 - an inductor rotor disposed opposite said stator core via a first air gap; and
 - a magnetic circuit means for connecting said rotor, said stator core via a second air gap, wherein

said inductor rotor comprises a plurality of magnetically conductive portions and magnetically non-conductive portions that are alternately disposed in the circumferential direction thereof between said first air gap and said second air gap.
2. The rotary electric machine as claimed in claim 1,

wherein said inductor rotor comprises a plurality of permanent magnets having the same polarity disposed in the circumferential direction thereof at two magnetic pole-pitches.
3. The rotary electric machine as claimed in claim 1,

wherein said field coil is disposed inside said inductor rotor.
4. The rotary electric machine as claimed in claim 1, further comprising a rectifier unit connected to said armature winding for providing dc output power and a field current control unit connected to said field coil and said rectifier unit for supplying field current to said field coil.